REMARKS/ARGUMENTS

Introductory Remarks

Claims 1-17 are pending in the application. Claim 2, 6, 8, 12, and 15 have been amended.

Summary of Interview

The undersigned attorney spoke with Examiner Anderson via telephone on January 16, 2008. The Examiner confirmed that the Office Action was based on the amended claims submitted on February 4, 2005, even though page 6 of the Office Action only made reference to the originally filed claims. As claims 14-17 were added by the February 4, 2005 amendment, the undersigned agreed with the examiner because the office action referred to claims 1-17 as pending. The Examiner also stated that the undersigned and his law firm were not listed as the attorney of record. The undersigned stated he would investigate and submit a new Power of attorney if one had not been submitted.

After investigating the status of the Power of Attorney, the undersigned spoke with Examiner Anderson later in the day on January 16, 2008. The undersigned noted that a Power of Attorney had been submitted on October 13, 2004, and a Notice of Acceptance was mailed on November 9, 2004, both of which were listed in the prosecution history on PAIR. The Examiner stated that a new Power of Attorney was therefore not required.

Amendment to the Title

Examiner has requested a new title that is clearly indicative of the invention to which the claims are directed. Applicant has amended the title as stated in the Amendment to the Title section on page 2 of the present Response.

Requirement for Information under 37 CFR § 1.105

Examiner has requested the Applicant and the Assignee of this application to provide information regarding the recited equations in claims 2, 5, and 7.

Specifically, it is understood that the Request for Information sought two sets of information as follows:

> The instant application includes several equations as represented in claims 2, 5 and 7. Information is requested regarding said equations. Are the claimed equations based upon the work of others, or simply a derived product of the Applicant's invention? Specifically, Applicant is requested to clarify the source and/or derivation of the equations claimed.

> . . . .

> In response to this requirement, please provide copies of each publication which any of the applicants authored or co-authored and which describe the disclosed subject matter of non-collaborative processing of database information based on elemental make up of the product.

To try to respond to this Request for Information, the assignee made a good faith effort to contact the inventor, Olivier Pelletier, but was unsuccessful. The inventor is no longer employed by the affiliate company of the assignee. The undersigned attorney obtained the last known address of the inventor in the employer's personnel records. Letters requesting the inventor's assistance were sent to the inventor's last known address, which was in Switzerland, and to the inventor's address as stated in the inventor's Declaration. The letters were sent by registered postal mail and via DHL. Both letters sent by each method were returned. Copies of the returned postal envelopes are attached as Exhibits A and B. The undersigned attorney also searched the Internet to try to locate a web page that identified a current employment or address for an individual with the name of the inventor and reporting a past employment with the affiliate of the assignee, but that search was also not successful. Therefore, the assignee is unable to respond to this request for information based on the first hand knowledge of the inventor.

As the inventor was not available, the undersigned attorney consulted with the European Patent Attorney that had interviewed the inventor and prepared the priority European patent application. Attached is a declaration of Mr. Laurent Thibon, of the French law firm Cabinet Michel de Beaumont, who provides information he had learned from the inventor that may address the questions in the Request for Information.

In response to the first item in the Request for Information, the assignee provides the following: According to Mr. Thibon, the equations of claims 2, 5, and 7 were derived by the inventor based on his own general knowledge and the problem which the invention solves. It was Mr. Thibon's understanding that the inventor was aware of the general technique of X-square fitting, which involves minimizing the sum of quadratic errors over a set of values. The undersigned attorney notes that least squares fitting techniques are generally known, and several equations are described, for example, in Wikipedia at: http://en.wikipedia.org/wiki/Linear_least_squares. However, it was Mr. Thibon's understanding that the exact formula of claim 2, which applies this technique to the values sensed by an array of taste and smell sensors and ratings provided by the user, was not known in the prior art and was invented by the inventor. It is Mr. Thibon's understanding that the equation of claim 5 was derived intuitively by the inventor and is the result of the inventor's own work. It is also Mr. Thibon's understanding that the equation of claim 7 was derived intuitively by the inventor and is the result of the inventor's own work.

In response to the second item in the Request for Information, the assignee provides the following: After conducting a reasonable inquiry, neither the undersigned attorney nor Mr. Thibon believes that the inventor was an author or co-author of a work that describes the disclosed subject matter of non-collaborative processing of database information based on elemental make up of the product.

The undersigned attorney states that this response to the Request for Information was made in a good faith attempt to provide the Examiner with a complete reply to the requested information after a reasonable search to locate the inventor was unsuccessful, but because of that the knowledge or items of information known only to the inventor could not be readily obtained.

Claim Objections

The Office Action sets forth several objections of various claims to which the assignee responds as follows:

1. Claims 2, 5, and 7 are objected to because they are dependent upon a rejected base claim. The independent claims on which claims 2, 5, and 7 depend,

have been argued as being patentable in the below remarks. Therefore, at least for those reasons, claims 2, 5, and 7 are allowable.

2. Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. The Applicant has amended the claim as stated in the Amendment to the Claims section. Accordingly, Applicant requests that the objection to Claim 6 be withdrawn.

3. Claim 15 is objected to because of informalities in articles "a" and "the". The Applicant has amended the claim to correct the informality as stated in the Amendment to the Claims section. Accordingly, Applicant requests that the objection to Claim 15 be withdrawn.

Claim Rejections - 35 U.S.C. §112

The Office Action sets forth a rejection of claims 2 and 5-7 as being incomplete for omitting essential steps. Examiner suggests that it is clear that the ratings are inputted by the user of the system, but it is not apparent how the ranks are stored, generated, or determined in the method/system.

Applicant respectfully disagrees with this rejection the steps of storing, generating or determining the ranks are not essential steps. In the specification, paragraph [0033] states that "an ordered set of n measurements corresponding to the smell signatures or smell print of [the] perfume" are stored in "the database 1". Fig 2 and Fig 4 also illustrate an embodiment of the invention. The specification does not describe storing ranks, generating ranks or determining ranks. Rather the specification describes that the ranks correspond to the ordered number of products to be rated, such as described in paragraph [0039], or the number of sensors in a nose, such as described in paragraph [0035]. The so-called ranks are inherent in the operation of the equations recited in claims 2, 5 and 7, for example, when I or j are stepped through from 1 to 10 in performing the summation operation, and are not stored, generated or determined in separate steps as the Examiner asserts.

For at least the reasons indicated above, the Applicant has recited all necessary steps to enable the invention under 35 U.S.C. § 112. Accordingly, Applicant requests this rejection be withdrawn.

Claim Rejections - 35 U.S.C. §103 (a)

The Office Action sets forth several rejections of various claims as being obvious under 35 U.S.C. §103(a) as follows:

1. Claims 1, 3, 6, 8-15, and 17 are rejected as being unpatentable over Juergens (US Patent 5,200,909) in view of Hillier et al (Introduction to Operations Research, published 01/1995).

2. Claim 4 is rejected as being unpatentable over Juergens (US Patent 5,200,909) in view of Hillier et al (Introduction to Operations Research, published 01/1995) as applied to claim 1 and further in view of Glaser et al (US Patent 7,003,515).

3. Claim 16 is rejected as being unpatentable over Juergens (US Patent 5,200,909) in view of Hillier et al (Introduction to Operations Research, published 01/1995) as applied to claim 12 and further in view of Yamafuji et al (US Patent 5,302,262).

Applicant respectfully disagrees with these rejections, because the Office has failed to establish a *prima facie* case of obviousness for any one of claims 1, 3-4, 6, and 8-17.

As to claim 1, Examiner states that the "storing" step and the "automatically calculating" step of claim 1 as well as the "satisfaction note rating given by the user" are taught by Juergens. The Applicant respectfully disagrees.

Juergens relates to a method and system for classifying wine by chemically analyzing a wine sample. In column 4, line 52 to column 5, line 13, Juergens discusses a rating system for wine whereby individual scales are created, from 0 to 10 units to express degrees of specific wine characteristics such as sweetness, acidity, astringency, and body (col. 4, lines 58-61). In column 10, Juergens discusses a computer system which allows a customer to enter preference scores for wines if such scores are known. A customer is asked to select preference scores for preferred body, tannin, astringency, and sweetness (col. 10 lines 56-58). If these

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are not known, a list of wines can be provided to the user and if one of the wines in the list is desirable, the customer is given the rating scale scores associated with that wine. Juergens then describes a routine to select a wine based on the preference scores indicated by the user. The wine is rated by giving it a score based on an equation that takes into account the wine characteristics W_x and the consumer preferences P_x (col. 11, lines 43-61).

Juergens does not disclose the step of claim 1 of "storing for each of a set of products chosen among products for which a database includes smell or taste prints constituted by a set of measurements given by smell or taste electronic sensors, a satisfaction note rating (SN) given by the user". Juergens describes providing a score preference relating to the different aspects that a wine may possess such as body, tannin levels, astringency, and sweetness. However, neither the database nor method described by Juergens contains or stores user ratings for a set of products.

Furthermore, Juergens does not disclose the step of claim 1 of "automatically calculating weighting coefficients constituting said profile and respectively affected to said sensors measurements, by successive approximation of sets of weighting coefficients". The passages of Juergens cited by the Examiner, col. 11 lines 44-68 and col. 12, lines 1-5, relate to developing a score for a particular wine based on user preferences. Neither these passages nor Juergens as a whole disclose automatically determining weighting coefficients. In particular, formula (9) in column 11, the value Cx is a "scale weight for the body, tannin, acidity and sweetness characteristics of the wine based upon color of the wine." However, these values are determined "based on wine literature and studies done by the applicant" (col. 12, lines 6-8). Thus, unlike claim 1 of the present Application, the values of Juergens are not determined automatically and do not constitute the user profile.

Examiner correctly states that Juergens fails to teach successive approximation of sets of weighting coefficients leading to minimizing the sum of the quadratic errors over the set of satisfaction notes. The Examiner has cited Hillier for the teaching of "minimizing the sum of the quadratic errors over the set of satisfaction notes (pgs 500-502 and 588-590)". Hillier does disclose several formulations for binary variables including quadratic programming. However, Hillier fails to disclose quadratic errors, a sum of quadratic errors, or minimizing a sum of

the quadratic errors. Moreover, Hillier does not disclose the step of "minimizing the sum of the quadratic errors over the set of satisfaction notes". Therefore, Juergens and Hillier taken alone or in combination, fail to teach or suggest all the limitations of claim 1 of the present invention.

Claims 2-11 and 17 depend from claim 1, which is patentable for the reasons noted above.

Regarding claim 12, Examiner states that the "database" element, the "memory" element, and the "calculator" element of the system of claim 12 are taught by Juergens. The Applicant respectfully disagrees.

The system of Juergens classifies wine by chemically analyzing a wine sample as to its degree of sweetness, acidity, astringency, and body. The system of Juergens allows a customer to enter preference scores for wines if such scores are known and the system may record a tally of wines selected by the consumer for record keeping purposes, such as to determine what is the most popular wine (col. 12, lines 65). However, neither the database nor the system described by Juergens contains or stores user ratings for a set of products. Therefore, Juergens does not teach a memory element for storing a user rating of each of a set of products chosen among the products contained in said database".

Furthermore, Juergens does not disclose the "element" of claim 12 of "a calculator for determining weighting coefficients constituting said profile and respectively affected to said sensors, by successive approximation of sets of weighting coefficients". The passages of Juergens cited by the Examiner, col. 11 lines 44-68 and col. 12, lines 1-5, relate to developing a score for a particular wine based on user preferences. Neither these passages nor Juergens as a whole disclose "a calculator for automatically weighting coefficients". Particularly, in formula (9) in column 11 of Juergens, the value Cx is a "scale weight for the body, tannin, acidity and sweetness characteristics of the wine based upon color of the wine." However, these values are determined "based on wine literature and studies done by the applicant" (col. 12, lines 6-8). Thus, unlike claim 12 of the present Application, the values of Juergens are not determined automatically by a calculator and do not constitute the user profile.

Examiner correctly states that Juergens fails to teach successive approximation of sets of weighting coefficients leading to minimizing the sum of the quadratic errors over the set of satisfaction notes. The Examiner has cited Hillier for the teaching of "minimizing the sum of the quadratic errors over the set of satisfaction notes (pgs 500-502 and 588-590)". Hillier does disclose several formulations for binary variables including quadratic programming. However, Hillier fails to disclose quadratic errors, a sum of quadratic errors, or minimizing a sum of the quadratic errors. Hillier does not disclose the element of a "calculator for minimizing the sum of the quadratic errors over the set of ratings". Therefore, Juergens and Hillier taken alone or in combination, fail to teach or suggest all the limitations of claim 1 of the present invention.

For at least the reasons indicated above, the Office has failed to establish a *prima facie* case of obviousness for any of claims 1 or 12. Claims 2-11 and 17 depend from claim 1 and claims 13-16 depend from claim 12 and therefore include all limitations of the respective independent claims. Accordingly, Applicant requests this rejection be withdrawn.

CONCLUSION

The claims at issue distinguish over the cited references and are in condition for allowance. Accordingly, such allowance is now earnestly requested. The Examiner is invited to contact the undersigned attorney for Applicant via telephone if such communication would expedite allowance of these claims.

Respectfully submitted,

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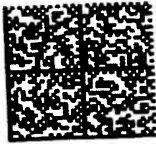
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